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Subspace Structures in Inner Product Spaces and von Neumann Algebras

Hamhalter J., Turilova E.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

We study subspaces of inner product spaces that are invariant with respect to a given von Neumann algebra. The interplay between order properties of the poset of affiliated subspaces and the structure of a von Neumann algebra is investigated. We extend results on nonexistence of measures on incomplete structures to invariant subspaces. Results on inner product spaces as well as on the structure of affiliated subspaces are reviewed. © 2011 Springer Science+Business Media, LLC.

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Keywords

Affiliated subspaces, Measures on subspace structures, Von Neumann algebras